IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant	: Vega *et al.*	Art Unit	: 1631
Patent No.	: 7,647,184	Examiner	: Lin, Jerry
Issue Date	: January 12, 2010	Conf. No.	: 7196
Serial No.	: 10/022,249	Cust. No.	: 77202
Filed	: December 17, 2001		
Title	: **HIGH THROUGHPUT DIRECTED EVOLUTION BY RATIONAL MUTAGENESIS**		

Attn.: Certificate of Correction Branch
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

REQUEST FOR CORRECTION TO ISSUED CERTIFICATE OF CORRECTION

Dear Sir:

Issuance of a corrected Certificate of Correction for the above-referenced patent respectfully is requested. New errors were introduced in the Certificate of Correction issued on April 6, 2010. Correction of the following errors respectfully is requested:

In issued Claim 19, on page 1 of the Certificate of Correction issued on April 6, 2010, in line 34, formatting errors were made in printing "max" and "r." Please print the normal text "max" as subscript $-_{max}-$ and both occurrences of the normal text "r" as superscript "^{r}" so that the claim now reads as — $P = P_{max}(\pi R1)^{r}/(\kappa + (\pi R1)^{r})$ —, as originally recited in the issued patent.

In issued Claim 19, on page 1 of the Certificate of Correction issued on April 6, 2010, in line 39, a formatting error was made in printing "max." Please print the normal text "max" as subscript $-_{max}-$ so that the claim now reads as — P_{max} —, as originally recited in the issued patent.

CERTIFICATE OF MAILING BY "EXPRESS MAIL"

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I hereby certify that this paper is being deposited with the United States Postal "Express Mail Post Office to Addressee" Service under 37 CFR §1.10 on the date indicated above and is addressed to: Attn.: Certificate of Correction Branch Commissioner for Patents, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA, 22313-1450.

Christopher M. Ochs

A hand-corrected version of the Certificate of Correction issued on April 6, 2010, for the above captioned patent is attached. Also attached is a new Certificate of Correction, which correctly presents Claim 19. Since not all the errors are those of the Patent Office, the Office is hereby authorized to charge the fee to Deposit Account No. 02-1818.

Respectfully submitted,

Stephanie Seidman
Reg. No. 33,779

Attorney Docket No. 3800073.00002/ 911
Address all correspondence to: 77202
Stephanie Seidman
K&L Gates LLP
3580 Carmel Mountain Road, Suite 200
San Diego, California 92130
Telephone: (858) 509-7410
Facsimile: (858) 509-7460
email: stephanie.seidman@klgates.com

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Attorney Docket No.: 3800073.00002/ 911
Request for Correction to Issued Certificate of Correction

NEW CERTIFICATE OF CORRECTION
PROVIDING CLAIM 19

Staple Here Only

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. .: 7,647,184

APPLICATION NO .: 10/022,249

DATED .: JANUARY 12, 2010

INVENTOR(S) .: VEGA ET AL.

It is certified that an error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

IN THE CLAIMS:

Column 79, line 33 to Column 80, line 4

19. The process of claim 18, wherein the Hill analysis, comprises:

(a) preparing a sample of each nucleic acid molecule or a plasmid or vector that comprises each nucleic acid molecule (biological agent), wherein each sample is obtained by a serial dilution of the molecules or vector or plasmid at a concentration R1;

(b) incubating each sample of the dilution obtained in (a) with the host cells (target cells) at a constant concentration R2;

(c) determining a P product from the reaction R1 + R2, at a t moment, in each sample; and

(d) preparing a theoretical curve H from the experimental points R1 and P, for each biological agent by iterative approximation of parameters of the reaction R1 + R2 → P, at the t moment, in accordance with the equation:

$$P = P_{max} (\pi R1)^r / (\kappa + (\pi R1)^r) \qquad r=1,\ldots,n \quad (2)$$

in which:

R1 represents the biological agent concentration in a sample from the scale;

R2 is concentration of target cells (in vitro or in vivo)

P (output) represents the product from the reaction R1 + R2 at a t moment;

P_{max} represents the reaction maximal capacity;

κ represents, at a constant R2 concentration, the biological system for responding to the biological agent (resistance constant R2);

MAILING ADDRESS OF SENDER:

Stephanie Seidman
K&L Gates, LLP
3580 Carmel Mountain Road, Suite 200
San Diego, CA, 92130

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UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. .: 7,647,184

APPLICATION NO .: 10/022,249

DATED .: JANUARY 12, 2010

INVENTOR(S) .: VEGA ET AL.

It is certified that an error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

r represents a dependent coefficient of R1 and corresponds to the Hill coefficient; and

π represents the intrinsic power of the R1 biological agent to induce a response in the biological system (P production at the t moment); and

(e) sorting the κ and π values obtained in (d) for each protein encoded by the nucleic acid molecules or plasmids or vectors and the cells, and then ranking according to the values thereof.

MAILING ADDRESS OF SENDER:

Stephanie Seidman
K&L Gates, LLP
3580 Carmel Mountain Road, Suite 200
San Diego, CA, 92130

Applicant : Vega *et al.*
Patent No. : 7,647,184
Issue Date : January 12, 2010
Serial No. : 10/022,249
Filed : December 17, 2001

Attorney Docket No.: 3800073.00002/ 911
Request for Correction to Issued Certificate of Correction

HAND-ANNOTATED CORRECTIONS TO THE CERTIFICATE OF CORRECTION ISSUED ON 06 APRIL 2010

UNITED STATES PATENT AND TRADEMARK OFFICE

CERTIFICATE OF CORRECTION

PATENT NO. : 7,647,184 B2
APPLICATION NO. : 10/022249
DATED : January 12, 2010
INVENTOR(S) : Vega et al.

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

IN THE CLAIMS:

Please replace Claim 9 with the following amended Claim:

Column 78, lines 23-26

9. The method of claim 1, wherein the pre-selected amino acid is selected from among Arg (R), Asn (N), Asp (D), Cys (C), Gln (Q), Glu (E), His (H), Ile (I), Leu (L), Lys (K), Met (M), Phe (F), Thr (T), Trp (W), Tyr (Y) and Val (V).

Please replace Claim 15 with the following amended Claim:

Column 78, lines 59-65

15. The process of claim 1, wherein:

in step (b) the nucleic acid molecules comprise viral vectors, and the method further comprises assessing the titer of the viral vectors in each set of cells; and

the predetermined property or an activity is selected from among a chemical, a physical and a biological property of the target protein.

Please replace Claim 19 with the following amended Claim:

Column 79, line 33 to Column 80, line 4

19. The process of claim 18, wherein the Hill analysis, comprises:

(a) preparing a sample of each nucleic acid molecule or a plasmid or vector that comprises each nucleic acid molecule (biological agent), wherein each sample is obtained by a serial dilution of the molecules or vector or plasmid at a concentration R1;

(b) incubating each sample of the dilution obtained in (a) with the host cells (target cells) at a constant concentration R2;

(c) determining a P product from the reaction R1 + R2, at a t moment, in each sample; and

(d) preparing a theoretical curve H from the experimental points R1 and P, for each biological agent by iterative approximation of parameters of the reaction R1 + R2 → P, at the t moment, in accordance with the equation:

$$P = \frac{P_{max}(\pi R1)^r}{(\kappa + (\pi R1)^r)}, \quad r=1,\ldots,n \quad (2)$$

in which:

R1 represents the biological agent concentration in a sample from the scale;

R2 is concentration of target cells (in vitro or in vivo)

P (output) represents the product from the reaction R1 + R2 at a t moment;

P_{max} ~~Pmax~~ represents the reaction maximal capacity;

κ represents, at a constant R2 concentration, the biological system for responding to the biological agent (resistance constant R2);

r represents a dependent coefficient of R1 and corresponds to the Hill coefficient; and

π represents the intrinsic power of the R1 biological agent to induce a response in the biological system (P production at the t moment); and

(e) sorting the κ and π values obtained in (d) for each protein encoded by the nucleic acid molecules or plasmids or vectors and the cells, and then ranking according to the values thereof.

Please replace Claim 26 with the following amended Claim:

Column 82, lines 4-8

26. The method of claim 22, wherein the pre-selected amino acid is selected from among Arg (R), Asn (N), Asp (D), Cys (C), Gln (Q), Glu (E), His (H), Ile (I), Leu (L), Lys (K), Met (M), Phe (F), Thr (T), Trp (W), Tyr (Y) and Val (V).

Signed and Sealed this

Sixth Day of April, 2010

David J. Kappos

David J. Kappos
Director of the United States Patent and Trademark Office